

REMARKS

Claims 10-12, 15-21, 24-28 and 31-38 remain in the present application.

The disclosure was objected to because of certain informalities. In paragraph [0036], Applicants disclose the heating rate in K/min while the heating temperature is disclosed in degree Celsius. It is therefore not clear what heating unit Applicant is using for the heating rate.

Claims 31, 33, 35, 37 and 38 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The claims are indefinite in that it is not clear what heating unit is recited in the claims.

Claims 10-12, 16-21, 25-28 and 31-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art ("AAPA") in view of Curtiss et al., U.S. Patent No. 7,115,322 ("Curtiss") or Horibe et al., U.S. Patent No. 5,756,221 ("Horibe") and Kirk, U.S. Patent No. 1,552,059 ("Kirk").

Claims 15, 24 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Curtiss or Horibe and Kirk as applied to claims 10 and 20, and further in view of Warichet et al. U.S. Patent No. 6,921,439 ("Warichet").

Claims 31, 33, 35, 37 and 38 have now been amended to address the Office's objections and rejections. No new matter has been added. Reconsideration of the application in view of the above amendments and below remarks is respectfully requested.

Objection to the Specification

The disclosure was objected to because of certain informalities. In paragraph [0036], Applicants disclose the heating rate in K/min while the heating temperature is

disclosed in degree Celsius. It is therefore not clear what heating unit Applicant is using for the heating rate.

Applicants have now amended paragraph [0036] to disclose the heating rate in °C. The Applicants make said amendments merely for the sake of clarity and note that the unit temperature measurements K (Kelvin) and °C (Celsius) are identical. Kelvin and Celsius merely establish their respective 0 starting points differently. Kelvin sets 0 K at absolute zero (which is equal to - 273.15 °C) while 0 °C is the freezing point of water at standard temperature and pressure.

Withdrawal of the objection to the disclosure is respectfully requested.

Rejection of Claims 1-16 under 35 U.S.C. § 112, Second Paragraph

Claims 31, 33, 35, 37 and 38 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicants regard as the invention. The claims are indefinite in that it is not clear what heating unit is recited in the claims.

Applicants thank the Examiner for pointing out the aforementioned claim language. Applicants have now amended 31, 33, 35 and 37 so as to respectively recite “°C/min”. No inconsistent units are cited between claim 38 and its dependent claim 38, such that no amendment of claim 38 relating to unit temperature measurements is required. The Applicants make said amendments merely for the sake of clarity and note that the unit temperature measurements K (Kelvin) and °C (Celsius) are identical. Kelvin and Celsius merely establish their respective 0 starting points differently. Kelvin sets 0 K at absolute zero (which is equal to - 273.15 °C) while 0 °C is the freezing point of water at standard temperature and pressure.

Withdrawal of the rejections to claims 31, 33, 35, 37 and 38 under 35 U.S.C. § 112, second paragraph is respectfully requested.

Rejection of Claims 10-12, 16-21, 25-28 and 31-38 under 35 U.S.C. § 103(a)

Claims 10-12, 16-21, 25-28 and 31-38 were rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Curtiss or Horibe and Kirk.

Applicants' AAPA is described below.

Curtiss describes a method of manufacturing an open hem flange for a vehicle which includes stamping the outer sheet metal panel to include a border flange along the periphery of the outer sheet. The inner sheet metal panel is stamped with dimples along the lower portion of the panel. Subsequently, the inner sheet metal reinforcing panel is nested within the outer sheet metal panel. The outer sheet metal panel is then affixed to the inner sheet metal panel. Subsequently, the door structure is electrocoated and a stick adhesive is applied between the outer sheet metal panel and the inner sheet metal reinforcing panel. The door structure and the stick adhesive is heated so that the stick adhesive melts into the door between the outer sheet metal panel and the inner sheet metal reinforcing panel. The outer sheet metal panel is then secured to the inner sheet metal reinforcing panel as the adhesive bonds to each surface. See Curtiss, paragraph [0023] and Fig. 4.

Horibe describes a coating method comprising: 1) applying onto a material to be coated a cationic electrodepositable coating composition comprising, a) a polyurethane-modified epoxy resin-amine adduct, and b) a nonionic film-forming resin; 2) applying, onto the cured electrocoating film, an aqueous coating composition comprising a metallic pigment and/or coloring pigment, as a first top coat, and then heat-curing the formed coating film; and 3) applying thereonto, as a second top coat, a high-solid-content coating composition comprising c) a carboxy group-containing compound, d) a vinyl type polymer, e) a reactive organopolysiloxane, and f) crosslinked polymer fine particles but comprising substantially no pigment, and then heat-curing the formed coating film. See Horibe, column 2, lines 14-17 and 34-47 and the abstract.

Kirk describes sherardizing pipe couplings, castings, nails, wire and other metal articles whereby by progressively heating the articles during the sherardizing treatment with zinc dust. The sherardizing operation is carried out in a drum which is caused to pass through a tunnel kiln, heating the articles in a progressive and gradual manner while they are being continually tumbled into contact with the usual kind and quantity of zinc powder. See Kirk, page 1, lines 10-17 and 47-55.

For the Office's convenience, Applicants will hereafter address each of independent claims 10 and 20 separately.

Independent claim 10 recites "a process for producing a press-hardened component from a semi-finished product made of unhardened, hot-formable steel sheet"

comprising “forming a component blank from the steel semi-finished product using a cold-forming process, the component blank including a margin contour corresponding approximately to a contour of the press-hardened component and a margin edge; trimming the component blank at the margin edge to the margin contour; heating and press-hardening the trimmed component blank using a hot-forming tool; and covering the press-hardened component blank with a corrosion-prevention layer in a coating step, wherein the coating step includes a thermal diffusion process.”

Applicants’ respectfully submit that none of AAPA, Curtiss, Horibe and Kirk teach or suggest “the component blank including a margin contour corresponding approximately to a contour of the press-hardened component and a margin edge” and “trimming the component blank at the margin edge to the margin contour” prior to “heating and press-hardening the trimmed component blank using a hot-forming tool” as is required by independent claim 10 of the present application. The only possible AAPA, as defined in MPEP 2129, is DE 101 49 221 C1 which is discussed by Applicants in paragraph [0004] of the application as filed. DE 101 49 221 C1 is equivalent to US Publication No. 2003/0066582 (“Gehringhoff”) which will hereinafter be referenced for the Office’s convenience. Gehringhoff describes the process of:

- providing a sheet metal blank, pre-formed with one or more depressions;
- heat-treating the metal blank to a hardening temperature and forming in a press mold (and optionally cutting out the bottom of the depression while in the press mold);
- directly or indirectly cooling the tempered sheet metal blank; and
- optionally cutting or trimming the sheet metal article in a post-operation.

See Gehringhoff, paragraphs [0010] and [0014] to [0017]. A table comparing the features of independent claim 10 with the Gehringhoff is set forth below for the Office’s convenience:

Step	Claim 10	Step	Gehringhoff
1	Forming a component blank from the steel semi-finished product using a cold-forming process.	1	Providing a sheet metal blank, pre-formed with one or more depressions. (See Geringhoff, paragraph [0010])
	The component blank includes a margin contour corresponding approximately to a contour of the		Not Disclosed

	press-hardened component and a margin edge.		
2	Trimming the component blank at the margin edge to the margin contour.		Not Disclosed
3	Heating and press-hardening the trimmed component blank using a hot-forming tool.	2	Heat-treating the metal blank to a hardening temperature and forming in a press mold. (See Geringhoff, paragraph [0014])
			Optionally cutting out the bottom of the depression while in the press mold. (See Geringhoff, paragraph [0015])
		3	Direct or indirect cooling. (See Gehringhoff, paragraph [0014])
4	Covering the press-hardened component blank with a corrosion-prevention layer in a coating step, wherein the coating step includes a thermal diffusion process.		Not Disclosed
			Optional post-operation cutting or trimming. (See Gehringhoff, paragraph [0017]).

As shown above, Gehringhoff does not disclose the component blank including a margin contour corresponding approximately to a contour of the press-hardened component and a margin edge, and trimming the component blank at the margin edge to the margin contour prior to heating and press-hardening the trimmed component blank using a hot-forming tool as is required by independent claim 10 of the present application. In contrast, all trimming steps in Geringhoff follow the heat treatment to a hardening temperature. See Geringhoff, paragraphs [0014], [0015] and [0017]. None of Curtiss, Horibe and Kirk cure this defect because none of said references disclose the aforementioned required features of independent claim 10. Curtiss describes a method of manufacturing an open hem flange for a vehicle, Horibe describes a specific three step coating method using specific coating materials, while Kirk generally describes a sherardizing operation for metal articles using zinc dust. None of Curtiss, Horibe and Kirk, however, teach or suggest the features of the component blank including a margin contour corresponding approximately to a contour of the press-hardened component and a margin edge, and trimming the component blank at the margin edge to the

margin contour prior to heating and press-hardening the trimmed component blank using a hot-forming tool as is required by independent claim 10 of the present application.

The Office states that the AAPA discloses the process of “producing a press-hardened component from a semi-finished product made of unhardened, hot-formable steel sheet, wherein a steel semi-finished product pre-coated with a corrosion prevention layer is formed into a component blank using a cold-forming process, the component blank is subsequently trimmed, and heating and press-hardening the trimmed component blank by hot-forming takes place.” See the Office Action dated April 11, 2011, Detailed Action, page 4, 21 to page 4, line 5. Applicants respectfully submit that neither the prior art cited in the application, Geringhoff, nor the application as filed recite the aforementioned steps.

Applicants further respectfully submit that the Office has failed to make even a *prima facie* case of obviousness. The Office has here failed to resolve the level of ordinary skill in the pertinent art as the United States Supreme Court required in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). See MPEP 2141. Applicants further submit that, once the level of ordinary skill in the pertinent art has been resolved, that the Office must then then provide a rational underpinning for a person of ordinary skill in the art to combine Geringhoff with Curtiss, Horibe and Kirk; the United States Supreme Court having held that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See MPEP 2142 and 2143.01 IV. The required articulated reasoning with some rational underpinning has not here been made because the level of ordinary skill in the pertinent art has not been resolved.

Independent claim 20 recites “a process for producing a press-hardened component from a semi-finished product made of unhardened, hot-formable steel sheet” comprising “heating and press-hardening the semi-finished steel product using a hot-forming tool so as to form a press-hardened component blank, having a margin contour corresponding approximately to the press-hardened component and a margin edge; trimming the press-hardened component blank at the margin edge to the margin contour; covering the press-

hardened, trimmed component blank with a corrosion-prevention layer in a coating step, wherein the coating step includes a thermal diffusion process.”

Applicants’ respectfully submit that none of AAPA, Curtiss, Horibe and Kirk teach or suggest forming “a press-hardened component blank, having a margin contour corresponding approximately to the press-hardened component and a margin edge” and then “trimming the press-hardened component blank at the margin edge to the margin contour” as is required by independent claim 20 of the present application. AAPA/Gehringhoff describes the process of:

- providing a sheet metal blank, pre-formed with one or more depressions;
- heat-treating the metal blank to a hardening temperature and forming in a press mold (and optionally cutting out the bottom of the depression while in the press mold);
- directly or indirectly cooling the tempered sheet metal blank; and
- optionally cutting or trimming the sheet metal article in a post-operation.

See Gehringhoff, paragraphs [0010] and [0014] to [0017]. A table comparing the features of independent claim 20 with the Gehringhoff is set forth below for the Office’s convenience:

Step	Claim 20	Step	Gehringhoff
		1	Providing a sheet metal blank, pre-formed with one or more depressions. (See Geringhoff, paragraph [0010])
1	Heating and press-hardening the semi-finished steel product using a hot-forming tool so as to form a press-hardened component blank,	2	Heat-treating the metal blank to a hardening temperature and forming in a press mold. (See Geringhoff, paragraph [0014])
	The press-hardened component blank has a margin contour corresponding approximately to the press-hardened component and a margin edge.		Not Disclosed
2	Trimming the press-hardened component blank at the margin edge to the margin contour.		Not Disclosed
			Optionally cutting out the bottom of the depression while in the press mold. (See Geringhoff, paragraph [0015])

		3	Direct or indirect cooling. (See Gehringhoff, paragraph [0014])
			Optional post-operation cutting or trimming. (See Gehringhoff, paragraph [0017]).
3	Covering the press-hardened, trimmed component blank with a corrosion-prevention layer in a coating step, wherein the coating step includes a thermal diffusion process.		Not Disclosed

As shown above, Gehringhoff does not disclose “forming a press-hardened component blank having a margin contour corresponding approximately to the press-hardened component and a margin edge” and then “trimming the press-hardened component blank at the margin edge to the margin contour” as is required by independent claim 20 of the present application. While Geringhoff discloses two optional cutting steps, none of said steps teach or suggest that a press-hardened component blank be formed which has a margin contour corresponding approximately to the press-hardened component and a margin edge. Geringhoff furthermore does not teach or suggest “trimming the press-hardened component blank at the margin edge to the margin contour” as is required by independent claim 20 of the present application. None of Curtiss, Horibe and Kirk cure this defect because none of said references disclose the aforementioned required features of independent claim 20. Curtiss describes a method of manufacturing an open hem flange for a vehicle, Horibe describes a specific three step coating method using specific coating materials, while Kirk generally describes a sherardizing operation for metal articles using zinc dust. None of Curtiss, Horibe and Kirk, however, teach or suggest the features of “forming a press-hardened component blank having a margin contour corresponding approximately to the press-hardened component and a margin edge” and then “trimming the press-hardened component blank at the margin edge to the margin contour” as is required by independent claim 20 of the present application.

The Office states that the AAPA discloses the process of “producing a press-hardened component from a semi-finished product made of unhardened, hot-formable steel sheet, wherein a steel semi-finished product pre-coated with a corrosion prevention layer is formed into a component blank using a cold-forming process, the component blank is

subsequently trimmed, and heating and press-hardning the trimmed component blank by hot-forming takes place.” See the Office Action dated April 11, 2011, Detailed Action, page 4, 21 to page 4, line5. Applicants respectfully submit that neither the prior art cited in the application, Geringhoff, nor the application as filed recite the aforementioned steps.

Applicants further respectfully submit that the Office has failed to make even a prima facie case of obviousness. The Office has here failed to resolve the level of ordinary skill in the pertinent art as the United States Supreme Court required in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966). See MPEP 2141. Applicants further submit that, once the level of ordinary skill in the pertinent art has been resolved, that the Office must then then provide a rational underpinning for a person of ordinary skill in the art to combine Geringhoff with Curtiss, Horibe and Kirk; the United States Supreme Court having held that “rejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) quoting *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See MPEP 2142 and 2143.01 IV. The required articulated reasoning with some rational underpinning has not here been made because the level of ordinary skill in the pertinent art has not been resolved.

Because each of AAPA/Gehringhoff, Curtiss, Horibe and Kirk are missing at least the above-recited features of independent claims 10 and 20, it is respectfully submitted that any combination of AAPA/Gehringhoff, Curtiss, Horibe and Kirk, to the extent proper, could not render independent claims 10 and 20, or any of their respective dependent claims, obvious.

For at least the above reasons, reconsideration and withdrawal of the rejection to claims 10-12, 16-21, 25-28 and 31-38 under 35 U.S.C. § 103(a) based on respective combinations of AAPA/Gehringhoff in view of Curtiss or Horibe and Kirk is respectively requested.

Rejection of Claims 15, 24 and 36 under 35 U.S.C. § 103(a)

Claims 15, 24 and 36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Curtiss or Horibe and Kirk as applied to claims 10 and

20, and further in view of Warichet.

The AAPA was described above.

Warichet describes a flux dip for hot dip galvanization. Warichet thereby describes that conventional hot dip galvanization consisting of dipping iron or steel articles in a molten zinc bath requires careful surface preparation in order to assure adherence, continuity and uniformity of the zinc coating. See Warichet, column 1, lines 16-19 and the abstract.

Applicants respectively submit that each of claims 15 and 36 properly depend on independent claim 10, and that claim 24 properly depends on independent claim 20. As stated above, none of AAPA, Curtiss, Horibe and Kirk teach or suggest that “the component blank including a margin contour corresponding approximately to a contour of the press-hardened component and a margin edge” and “trimming the component blank at the margin edge to the margin contour” prior to “heating and press-hardening the trimmed component blank using a hot-forming tool” as is required by independent claim 10 of the present application. Furthermore, none of AAPA, Curtiss, Horibe and Kirk teach or suggest forming “a press-hardened component blank, having a margin contour corresponding approximately to the press-hardened component and a margin edge” and then “trimming the press-hardened component blank at the margin edge to the margin contour” as is required by independent claim 20 of the present application. Warichet does not cure this defect. Warichet merely describes a flux for hot dip galvanization.

Because each of AAPA/Gehringhoff, Curtiss, Horibe, Kirk and Warichet are missing at least the above-recited features of independent claims 10 and 20, it is respectfully submitted that any combination of AAPA/Gehringhoff, Curtiss, Horibe, Kirk and Warichet, to the extent proper, could not render independent claims 10 and 20, or any of their respective dependent claims 15, 24 and 36, obvious.

For at least the above reasons, reconsideration and withdrawal of the rejection to claims 15, 24 and 36 under 35 U.S.C. § 103(a) based on respective combinations of AAPA/Gehringhoff in view of Curtiss or Horibe and Kirk and further in view of Warichet is respectfully requested.

Acknowledgment of Foreign Priority

Applicants note that the Office did not acknowledge the Applicants' claim to foreign priority. See Office Action dated April 11, 2011, Office Action Summary.

Applicants note that the present application claimed the priority of DE 103 33 165.4, dated July 22, 2003, in the Application Data Sheet which was filed upon entering the National Phase in the United States on January 20, 2006. That same priority information is also listed in the Office's PUBLIC PAIR system. Applicants respectfully request that the Office acknowledge the Applicants' aforementioned claim to foreign priority.

CONCLUSION

In view of the above amendments, Applicants believe the pending application is in condition for allowance.

It is believed that no fee(s) are required for this submission other than the \$ 635.00 fee for a three month extension of time applicable to a small entity. Should the U.S. Patent and Trademark Office determine that additional fees are owed or that any refund is owed for this application, the Commissioner is hereby authorized and requested to charge the required fee(s) and/or credit the refund(s) owed to our Deposit Account No. 50-5256.

Favorable action is earnestly solicited.

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Respectfully submitted,

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